

Innovation partnership: Agricultural research in Africa

The Pan-Africa Bean Research Alliance (PABRA) is made up of an international network of bean researchers, 29 national agricultural research institutions, and more than 350 partner organizations. As a result of PABRA's interventions, more farming families have access to improved and marketable bean varieties, new crop management techniques, micronutrient rich bean based products, niche market varieties and products, and bean related skills and knowledge that help to increase incomes and boost food and nutrition security.

Common beans (*Phaseolus vulgaris*) are an important staple food for more than 200 million Africans. Not only are they affordable, they provide a healthy mix of protein, complex carbohydrates and valuable micronutrients. Moreover, they improve soil fertility and are a significant and growing source of income for rural households. But bean production in the region has traditionally been poor. Pests and diseases, low soil fertility, poor agronomic practices and climate change along with rapidly growing populations have meant that beans were falling far short of their potential. PABRA, through its far-reaching network, brings solutions to scale to tackle these issues on the ground.

About PABRA

Established by the International Center for Tropical Agriculture (CIAT) in 1996, PABRA has developed a highly effective approach to collaborative research, in which every participating partner benefits from the work carried out by other network members. Through joint priority-setting and planning, and agreed division of responsibilities, PABRA generates improved bean technologies on a much larger scale. This means, for example, that a new bean variety developed in one country is shared with countries that don't have active breeding programs. They then test its suitability and adaptability, and release it, enabling a greater impact across Africa.

PABRA is made up of three networks – the Eastern and Central Africa Bean Research Network (ECABREN), the Southern Africa Bean Research Network (SABRN) and the West and Central Africa Bean Research Network (WECABREN).

What we do

PABRA works in partnership with farmers, rural communities, non-governmental organizations (NGOs), traders and other private sector organizations to improve each aspect of the bean value chain, from production to market, using a market-led approach.

Improving crop management

The number of farmers trained in Integrated Crop Management (ICM) technologies increased from 2.7 million (52% female) in April 2009 to 6.9 million (54% female) in March 2014. Improving the way farmers manage their crops can have a huge impact on their yields. PABRA uses ICM, a holistic approach, to improve crop production and protection, including pest and disease, soil fertility, water and post-harvest management practices. These include using fertiliser, planting in rows, regular weeding or mixing with other crops. Our aim is to increase access to cost effective, environmentally friendly and climate change resilient crop management techniques to help farmers increase their productivity, and thus their profits.

Breeding new varieties

Since 1996, PABRA has released over 550 new bean varieties across Africa, many of which have gone on to transform beans from a subsistence crop to a cash crop, such as the white pea bean in Ethiopia, which grew from an annual export industry of US \$8.5 million in 2004 to \$50 million in 2010. PABRA has a long history of developing bean varieties with genetic resistance to major pests and diseases, increased yields or nutritional value, and improved tolerance to abiotic stresses, such as soil problems and drought. Breeding efforts also pay close attention to grain size, taste, shape and color, as well as other socio-economic factors, to ensure bean producers are able to satisfy the specific demands of farmers, traders, processors and consumers.



Improving access to quality seed

More than 13 million households accessed new bean varieties between April 2009 and March 2013, enabled by an inventive approach which includes supporting farmers to turn seed multiplication into a business, and packaging seeds into smaller more affordable packets. To address market constraints, PABRA facilitates the development of partnerships between farmers and farmer groups, the public and private sectors, and NGOs.

Linking farmers to markets

Since April 2009, PABRA has linked more than 1.4 million farmers to niche and dry bean markets and established 11 bean platforms in 10 countries. Building bridges between farmers and buyers is essential for market development. By creating links between farmers and profitable markets and establishing platforms (networks of stakeholders brought together to remove the bottlenecks hindering bean production and marketing), farmers are assured of a better return on their crops.

Closing gender gaps

The percentage of women accessing ICM, and



participating in seed production and dissemination increased by over 40% in 5 years (from 10% in April 2009 to 57% in March 2014).

Women play crucial roles as farmers in smallholder agricultural production and as mothers managing household nutrition, so it is imperative to take their needs, and those of their children, into account. Gender issues are integrated into every aspect of PABRA's work to ensure that men and women equitably participate in technology development, delivery and decision making,



including training and mentoring gender champions in each national bean program.

Improving nutrition

Between April 2009 and March 2014, seven bean products were developed and promoted, along with recipes, in 11 PABRA countries. Beans, rich in iron and zinc, can be used to address one of the world's most common health problem: Iron-deficiency anemia. As well as breeding new varieties with increased nutritional value, PABRA works with its partners to educate farming communities on the benefits of preparing nutritious dishes made from bean-based products.



Cultivating knowledge

Between April 2009 and March 2014, 86,880 people (37% women) participated in PABRA-based training, workshops, and knowledge sharing events, in everything from effective soil management and disease control, to storage and business skills. For farmers to benefit from the introduction of new bean varieties, they need skills and knowledge. PABRA and its partners provide essential information, education and training opportunities for farmers and staff of organizations supporting farmers, such as government extension agencies, NGOs and agri-businesses.

Support PABRA

PABRA is supported by Canada Department of Foreign Affairs, Trade and Development (DFATD), Swiss Agency for Development and Cooperation (SDC), Bill and Melinda Gates Foundation, McKnight Foundation, AGRA, ASARECA and the Governments of PABRA member countries. We are grateful to those who have invested generously in PABRA's mission to enable member countries to improve every aspect of the bean sub-sector, ironing out any obstacles along the way, and bringing together key partners throughout the chain.

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